

REMARKS

Summary of Claim Status

Claims 1-17 and 27-30 are pending in the present application after entry of the present amendment. Claims 1-3, 5-17, and 27-30 are rejected for the reasons discussed below. Claim 4 is objected to as depending from a rejected base claim, but indicated as allowable if properly rewritten in independent form.

Applicant respectfully requests favorable reconsideration of the claims and withdrawal of the pending rejections and objections in view of the present amendment and in light of the following discussion.

Rejections Under 35 U.S.C. § 102

Claims 1, 5-15, 17, and 27-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Kothandaraman, U.S. Patent Publication No. 2004/0124458 ("Kothandaraman"). Applicant thanks the Examiner for an explicit and clear description of how Kothandaraman is being read. However, Applicant respectfully disagrees and traverses this rejection.

Applicant has amended Claim 1 to point out more particularly and claim more distinctly the subject matter which Applicant regards as his invention. Specifically, Claim 1, as amended, recites that the gate electrode exhibits agglomeration. Applicants respectfully submit that Kothandaraman does not teach or even suggest such a feature.

As admitted by the Examiner in the Office Action, Kothandaraman merely discloses a non-volatile transistor where "the result is a shorted channel as opposed to an open gate." Office Action at page 6. Applicant agrees with this characterization of Kothandaraman. Kothandaraman discloses a fuse device where a current is passed through the gate to heat the channel region. The heated channel region causes a conductive region 36 to form below the gate by an annealing process and creates a short between the source and the drain. See, e.g., Kothandaraman at pages 3-4, paragraphs [0038]-[0039].

In contrast, Claim 1 recites that the gate electrode exhibits agglomeration. Kothandaraman does not even mention agglomeration, much less teach or disclose a gate electrode that exhibits agglomeration. Moreover, Kothandaraman teaches away from agglomeration, which causes a threshold voltage shift, since the fuse in Kothandaraman is programmed by heating and modifying the channel, and not the gate. Further, as explained in the Office Action, Kothandaraman results in a shorted channel. Therefore, Applicant believes Claim 1, as amended, is allowable over the cited references, and Applicant respectfully requests allowance of Claim 1.

Applicant has amended Claim 27 to point out more particularly and claim more distinctly the subject matter which Applicant regards as his invention. Specifically, Claim 27, as amended, recites that the first and second program control voltages cause a current to flow through the gate electrode of the transistor, thereby causing agglomeration in the gate electrode of the transistor. Applicant submits that Kothandaraman fails to teach or even suggest such a feature.

As set forth above in greater detail with respect to Claim 1, Kothandaraman does not even mention, much less teach or suggest, any agglomeration. Instead, Kothandaraman teaches a current that heats a channel region to cause a short between the source and drain. There is no teaching in Kothandaraman that the current causes agglomeration in the gate electrode. In contrast, Claim 27 recites a current that causes agglomeration in the gate electrode of the transistor.

Therefore, Applicant believes Claim 27 is also allowable over the cited references, and allowance of Claim 27 is respectfully requested.

Claims 5-15 and 17 depend, either directly or indirectly, from Claim 1, and thus include all of the limitations of Claim 1. Claims 28-30 depend from Claim 27, and thus include all of the limitations of Claim 27. For the reasons set forth above, Applicant believes Claims 1 and 27 are allowable. Therefore, for at least the same respective reasons, Applicant believes Claims 5-15, 17, and 28-30 are also allowable, and respectfully requests allowance of such claims.

Rejections Under 35 U.S.C. § 103

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothandaraman in view of Hui, U.S. Patent Publication No. 2005/0067670 ("Hui"). Applicant respectfully disagrees, and submits that Kothandaraman and Hui, alone or in any combination, do not teach or suggest the claimed inventions. Furthermore, Claims 2 and 3 depend from Claim 1, and thus are believed to be allowable for at least the same reasons Claim 1 is believed allowable. Therefore, Applicant respectfully requests allowance of Claims 2 and 3.

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kothandaraman in view of Rao et al., U.S. Patent No. 6,522,582 ("Rao"). Applicant respectfully disagrees, and submits that Kothandaraman and Rao, alone or in any combination, do not teach or suggest the claimed invention. Furthermore, Claim 16 depends from Claim 1, and thus is believed to be allowable for at least the same reasons Claim 1 is believed allowable. Therefore, Applicant respectfully requests allowance of Claim 16.

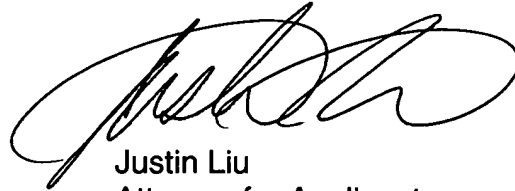
Objections

Claim 4 is objected to as being dependent from a rejected base claim, but indicated as otherwise allowable. Applicant thanks the Examiner for this acknowledgement of allowable subject matter. Applicant believes that all rejections have been overcome by the above amendments and that these objections have therefore been overcome. In particular, Claim 4 depends from Claim 1, and thus is believed to be allowable for at least the same reasons Claim 1 is believed allowable. Therefore, Applicant respectfully requests allowance of Claim 4.

Conclusion

Applicant acknowledges an unusually thorough and helpful analysis of all pending claims by the Examiner. No new matter has been introduced by any of the above amendments. In light of the above amendments and remarks, Applicant believes that Claims 1-17 and 27-30 are in condition for allowance, and allowance of the application is therefore requested. If action other than allowance is contemplated by the Examiner, the Examiner is respectfully requested to telephone Applicant's attorney, Justin Liu, at 408-879-4641.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on November 2, 2005.

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